projected about four-fifths of an inch further than usual, and returned with the straining. It was also seen that the recto-vaginal partition had become ulcerated through, and a great part of the feces was passed through the vulval orifice.

The following operation was performed under strict antiseptic precautions. The tumor was pulled down, and it was observed that there was a fold of mucous membrane closely united to it. On attempting to insert a tent between the fold and the tumor, the tent passed into a cavity. It was then drawn out, and the blade of a probe-pointed bistoury inserted ; the blade was then turned vertically against the fold of mucous membrane so as to nick it in several places. Traction was again performed, and the drawn-out portion was at once thought to be a part of the great omentum. The finger was then introduced along the tumor and found to be in the abdominal cavity. It was also ascertained that the tumor had come down from the abdominal cavity by perforating the intestine.

Being convinced that the tumor should be removed, Morisani drew down from the abdomen the other portion of the omentum. Four points of the Spencer Wells' chain suture were then placed in the part drawn out, and afterwards tightened by crossing it in the omental tissue. About three-fifths of an inch below this ligature the tumor was cut off, and the pedicle dressed with iodoform and returned to the abdominal cavity. The opening in the intestine was then plugged with an antiseptic sponge, its edges freshened and stitched to the rectal mucous membrane. A second set of vertical sutures was then put in, and the whole wound dressed antiseptically. The patient died of septic peritonitis on the sixth day.

The autopsy, made thirty hours after death, showed a collection of pus in the pelvis, a small opening in the intestine, through which feces had extravasated, and the contents of the abdominal cavity agglutinated. There was considerable lengthening of the transverse mesocolon. The stomach was in its normal position, but the transverse colon was dislocated, being curved so as to form a sort of angle, the apex of which was in the pelvic cavity. The epiploica magna had entered an opening in the wall of the prolapsed colon and had gradually passed out *per anum*. There was nothing to show clearly how the perforation was caused.—*Rivista Internazionale di Med. e Chir.*, No. 7, 1884.

Retroperitoneal Hernia, due to Arrest of Intestinal Development.

This case, which is reported by Dr. CARL M. FÜRST, of Stockholm, was seen in 1881, in the anatomical amphitheatre in the Caroline Institute, in the cadaver of a tailor, aged 61 years. The body had been found in Lake Mälar, where it had been for half a day. There was no means of discovering whether or not the deceased had felt any inconvenience from his internal hernia during life.

On opening the abdominal cavity the entire colon was found on the left side, the cæcum being situated perpendicularly in the middle line. The small intestine was on the right side and directed downwards. About two-thirds of the small intestine were covered and inclosed in a peritoneal pouch on the right side, the pouch occupying the entire right lumbar region, and the adjacent portions of the right hypochondrium and of the umbilical region. This pouch was large enough to contain the two fists, and its mouth was directed downwards, forwards, and slightly to the right, its greatest diameter measuring 12 cm. It was limited by the free border of the peritoneal fold, the left cornu of which was divided into two folds, the one, more marked, extending to the mesenteric connection of the appendix vermiformis, the other disappearing in the mesentery of the small intestine at the level of the fourth lumbar vertebra. The right cornu, falciform, was at first directed backwards, then descended to the left over the lower part of the kidney and disappeared in the right fold of the mesentery of the small intestine; the latter escaping from the pouch by a simple free convolution. The stomach was normal, but the duodenum was directed in a zigzag manner to the right by three parallel convolutions.

At the level of the second lumbar vertebra the intestine was crossed by the attached upper border of the peritoneal fold already spoken of, and entered the upper part of the pouch at the duodeno-jejunal fold. It then received a mesentery, the attachment of which extended from the middle of the second lumbar vertebra, downward and to the right, to the right side of the promontory; from this point to the lower border of the fourth lumbar vertebra, to the left of the median line, then passed to the right after a short turn, and descended into the mesocolon, which extended to the left flexure of the colon. The fold of the cæcum was situated in the middle line, and the ascending colon mounted vertically. Thence this last viscus turned, at the height of 10 cm., horizontally to the left, described a descending convolution until it reached the sigmoid flexure, when it mounted to the left flexure of the colon and again took its normal position. The ascending colon was inclosed in the above-mentioned peritoneal fold, and had what may be termed a double mesentery, one, which formed the left wall, inclosing the vessels and mesenteric glands, the other only cellular tissue. The epiploon was twisted and irregular.

There was no abnormality of any of the other viscera.

Fürst is of the opinion that the position of the intestine was the effect of an arrest of development dependent on an anomaly of the suspensory ligament of the duodenum, this view being supported by the zigzag direction of the duodenum. He adopts Gruber's explanation of the arrest of development (*Bildungshemmung*) of the mesentery, and cites several cases mentioned by Chiene, Clason, and Tscherning.

The explanation of the origin of the hernia is based in part on the descriptions given by Preitz of the embryonic conditions conducing to torsion of the intestine. At the same time Fürst criticizes Waldeyer's argument against the explanation given by Preitz of the fixation of the ascending and descending colon, which is due to the fact that the anterior abdominal wall requires the mesocolic peritoneum on account of its growth, whilst Waldeyer asserts that the mesenteric folds are in no way required for parietal coverings, but that the cause of the shortening of the mesocolon should be sought in the growth of the kidneys. Fürst thinks that the difference in the explanations given by Preitz and Waldeyer consists in the fact that according to the latter it is the middle fold, and according to the first the lateral fold of the mesocolon which is required.

The origin of the hernia is due to the fact that the cæcum, which, at the beginning of the third month of fœtal life, is situated in the middle line and high up under the liver, is prevented from passing to the right by the free small intestine. The lateral peritoneal fold of the mesocolon exerts, by the growth of the abdominal wall, strong tension on the lower fixed part of the duodenum. In this way a sort of peritoneal fold is formed by the descent of the cæcum while growing. This fold, the concavity of which was directed downwards, covered a portion of the small intestine, and finally caused hernia after the intestines were filled with food and gas. The dilating force exerted by the intestines on the peritoneal pouch caused the cæcum and ascending colon to assume a vertical position.

Fürst thinks this the more simple and probable explanation of the anomalous condition of things found in this case: The superior posterior attachment of the pocket passed over the lower part of the duodenum, whilst the free border of the hernial opening passed towards the cæcum, in the small mesentery of the vermiform appendix; and finally, that a simple intestinal convolution passed out of the hernial opening, and the ascending colon was found between the leaves of the peritoneal fold. The fixation of the mesentery of the lower portion of the ileum, which ascends and then descends, drawing it to the right and passing into the mesocolon, is a strong argument in favor of a more recent descent of the cæcum.—*Nordiskt Medicinskt Arkiv.* Bd. xvi. Hft. 15

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The After-Treatment of Lithotomy when the Bladder is Sacculated or Pouched.

In a paper on this subject, in the *Lancet*, Nov. 8, 1884, Mr. **REGINALD HARRISON** says that sacculation or pouching of the bladder is not only a frequent cause of stone in adults, but is probably the most serious complication attending its removal. An ill-shapen bladder often renders lithotrity out of the question, whilst it increases both the dangers of lithotomy and the liability to a recurrence of stone. A careful study of the results of lithotomy in adults not only shows them to be unsatisfactory when compared with the immediate risks of the operation, but also seems to point to certain defects in the after-treatment to which it is desirable to direct attention. To remove a calculus out of a pouch or depression in the bladder, and not at the same time to provide against urine lodging in the cavity thus formed for its reception and decomposition, is to incur a risk of cystitis and septicæmia which is by no means an imaginary one. It must be remembered that a saccule has no power of expelling its contents; its walls contain no muscular fibre, and it is entirely dependent on its relation to the general cavity of the bladder for the emptying of whatever it may contain. The small mortality following lithotomy in children and the extraction of stone in women is largely due to the fact that the conditions in both are favorable to the thorough drainage of the bladder.

I have recently been adopting a system of drainage after lithotomy and other cases in which the bladder has been opened which has so far proved a great benefit. In the first place, in all instances of stone complicated with a large prostate and with saccules on a depressed floor, I have been particularly careful by a sufficient division of the prostate to make a free access to the bladder; this has sometimes necessitated the section of the gland to a greater extent than was requisite for the removal of the calculus.

To provide free drainage after the operation for all depressed portions of the bladder, the following plan has been adopted (it is practically that of the double tube in tracheotomy): Through an ordinary lithotomy tube open at the end is passed and retained a rubber catheter, or drainage-tube; this adapts itself to the inequalities in the walls of the bladder, and can be made to enter any saccule that may be present. In a recent case, though the ordinary lithotomy tube seemed to be draining efficiently, I had from the general symptoms reason to believe that some urine was retained. On introducing the rubber catheter in the manner described, several ounces of fetid urine escaped, after which the progress of the case was good. By the double tube a constant system of drainage is carried on, so that urine escapes immediately on entering the bladder.

I would remark that to rapidly heal up a bladder which in its mechanical construction has all the elements necessary for the production of calculus is not in my judgment a wise proceeding, as long as anything can be gained by not doing so.

In cases of calculus associated with residual urine and a large prostate, I have had some excellent results in cases in which it was deemed desirable to retain the lithotomy tube for considerable periods of time—partly for the purpose of